



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,963	08/22/2003	Preston Whitcomb	05689-016001	8398

26161 7590 09/09/2005

FISH & RICHARDSON PC
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

EXAMINER

RIDLEY, RICHARD

ART UNIT PAPER NUMBER

3651

DATE MAILED: 09/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/645,963

Applicant(s)

WHITCOMB ET AL.

Examiner

Richard Ridley

Art Unit

3651

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 18-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “chuck assembly” must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 12, 13, 18, 19, 20, are rejected under 35 U.S.C. 102(b) as being anticipated by Ichikawa (JP 11163091).

- First robotic arm (4)
- Second robotic arm comprising a transfer arm (5) having a first and a second end
- End effector (fig. 3) attached to the second end of the second robotic arm (5), the end effector configured to apply a sequence of positive and negative pressures to capture and release (suction grippers 21 apply a sequence of positive and negative pressures in that suction is used to capture and release)
- Controller (inherent if not disclosed)

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 3651

4. Claims 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa in view of Petvai et al. (USP 5,569,328) and further in view of Donoso USP 6517130.

Ichikawa discloses all of the claim limitations, as above, and further discloses an end-effector (21), sensor (22, 23), and a chuck assembly and a transfer arm (19, fig. 4). Ichikawa does not disclose a counterweight attached to the first end of the transfer arm.

Petvai teaches the use of a counterweight (17) attached to a first end of a transfer arm (18) for the purpose of balancing the transfer arm (C4/L37-39).

It would have been obvious to one having ordinary skill in the art at the time of the invention to have employed the use of a counterweight attached to the first end of the transfer arm, as taught by Petvai, in the device of Ichikawa for the purpose of balancing the transfer arm.

While Ichikawa does indeed disclose an End effector (fig. 3) attached to the second end of the second robotic arm (5), with the end effector employing suction cups (21) to capture and release wafers, s/he does not explicitly disclose a chuck assembly attached to the to the second end of the transfer arm (19) wherein the end effector is attached to a lower portion of the chuck assembly.

Donoso teaches a chuck assembly attached to the to the second end of the transfer arm (at least the abstract) wherein the end effector is attached to a lower portion of the chuck assembly (fig. 3-13) for the purpose of providing for an improved arrangement of mounting an end effector on an arm that facilitates the capture and release of wafers.

It would have been obvious to one having ordinary skill in the art at the time of the invention to have employed the use of a chuck assembly attached to the to the second end of the transfer arm wherein the end effector is attached to a lower portion of the chuck assembly, as taught by Donoso, in the device of Ichikawa, for the purpose of providing for an improved arrangement of mounting an end effector on an arm that facilitates the capture and release of wafers.

5. Claims 14-17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ichikawa in view of Wirz (USP 4,869,489).

Ichikawa discloses all of the claim limitations, as above, but does not disclose a pneumatic separator for separation of the interleaves.

Wirz discloses a pneumatic separator (26) for the purpose of loosening the uppermost sheet in a stack of sheets and thus facilitating the lifting of the sheet by an end-effector (12) employing the use of suction grippers (8) (C5/L12+).

It would have been obvious to one having ordinary skill in the art at the time of the invention to have employed the use of a pneumatic separator, as taught by Wirz, in the device of Ichikawa for the purpose of loosening the uppermost sheet in a stack of sheets and thus facilitating the lifting of the sheet by an end-effector.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Ridley whose telephone number is (703) 306-5910. The examiner can normally be reached on Mon-Thur 7:00 am - 5:15 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Ellis can be reached on (703) 308-1113. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 10/645,963

Page 7

Art Unit: 3651

A handwritten signature in black ink, appearing to read 'Richard Ridley', with a large, stylized initial 'R'.

Richard Ridley
6 Sept 2005

Richard Ridley
Primary Examiner
Art Unit 3651